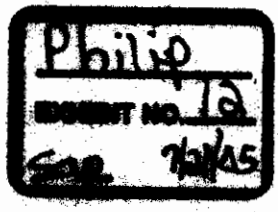
NFSTC
Science Serving Justice

National Forensic Science Technology Center
7881 114TH Avenue, N.
Largo, FL 33773
Phone 727.549.6067
Fax 727.549.6070
E-Mail admin@nfstc.org

Needs Assessment of Forensic Services in the Commonwealth of Massachusetts

REPORT

4 April 2002



2.1.7.5 Quality Management - MSPCL-St

The quality systems are not in place for the Ballistics Section.

At a minimum, written training programs and protocols to be used when examining evidence should be developed for the Ballistics section.

2.1.8 Office of Chief Medical Examiner - Boston (OCME-B)

The OCME-B is the headquarters for the Massachusetts Medical Examiners system. The office performs the autopsies for the greater Boston metropolitan area and serves as support for the three other satellite facilities. All supplies for the system are purchased through this facility and are distributed to the satellite offices from there. District medical examiners (physicians, not necessarily pathologists) are utilized in some geographic areas to assist in responding to death scenes. However, these individuals have not been utilized to the extent possible due the OCME-B's inability to compensate them for their assistance.

2.1.8.1 Physical Plant - OCME-B

The facility is located in a renovated building in southern Boston near Boston University Medical Hospital. The renovations were completed in 1993. The OCME-B physical plant in Boston is quite adequate for the services provided. The biggest problem is the location of the office. Due to its being located in the urban portion, there is very limited parking available at the site.

2.1.8.2 Work volume conditions - OCME-B

There was determined to be inadequate technical and clerical support present in the OCME-B. Medical staff spend significant time chasing down information and performing tasks better left to others, so that they could spend their time doing value added work for which they were trained. In order to manage the volume of cases with the available personnel the Office is aggressive in pursuing external examinations ("views"), rather than full autopsies, in approximately 25% of cases. They also restrict toxicology testing because of a cap on resources. The Boston Office functions with a mix of full time and contract pathologists with the case load for some full time persons beyond a reasonable load for one pathologist and at a level that could result very easily in an error occurring in the examination in a case. There is a natural tendency to keep full time pathologists busier than contract staff in order to keep costs down.

Another problem is the agency cannot get complete enough information concerning deaths to qualified personnel in order for them to make fully informed decisions as to whether to take cases. Consequently, it is likely that some cases that should be investigated by the Medical Examiner are not. If cases are accepted, the police, on behalf of OMCE-B frequently conduct the investigation in the field because the OCME-B lacks investigators to perform these duties.

Information is obtained at OCME-B through the use of individuals hired by a tissue procurement agency. Even though it was reported that there was only a single agency in Massachusetts, there is an appearance of a "conflict of interest" with individuals hired by a tissue procurement agency determining whether or not a case should be accepted by the medical examiner. A case could be made for the individuals accepting a case so tissues could be harvested rather than declining the case and the tissues not be harvested.

The forensic pathologists are poorly paid and minimally trained. The pay for professional staff is near the lowest in the country. The system has been able to hold its current people because most were Fellows in the Office and had a strong desire to live in Boston. If wages do not significantly improve, there are indications that retention of staff will become a worsening problem. The Commonwealth is currently assuming a significant risk for not properly funding the Medico-Legal investigation of death. At current wages, attraction of new candidates will be difficult if not impossible. The current staff is dedicated to what they do, appear to be working hard but are also very frustrated by the system that does not seem to value them. Many are also relatively inexperienced in forensic work. There is a

significant risk that decisions will be made to not investigate in depth or conduct an autopsy when one may in fact be indicated.

Sufficient resources must be obtained to provide adequate professional and technical personnel to perform the tasks as required in the office. The current system is at high risk to produce a major error within the criminal justice system. Without a major financial rescue, the system will continue to deteriorate, eventually costing more to fix and taking longer to repair. With the current budget the Office has no choice but to continue to cut corners, which increases the chances of major error. The addition of current physicians will also decrease the number of autopsies performed by a single physician, reducing the workload to the national standards.

Additional resources must be obtained to provide the necessary investigators to work for the OCME-B to attend death scenes in order to gather the required information. While the utilization of State Police personnel allows for the investigations, it also creates a potential ethical conflict. Also, in the event of a mishandled case, the collateral damage to another agency and the justice system is enlarged since the OCME does not have direct control over the individuals performing the investigations.

The salaries paid to the Chief Medical Examiner, Deputy Chief, and the pathologists assigned to the regional offices must be increased drastically or the system will stand to lose qualified positions in the near future. If this were to happen, the condition of the Office will be worse than it currently is. Further, resources should be made available to permit the physicians to attend the courses necessary to meet their continuing medical education requirements.

This is the third report in less than 18 months that has pointed out the critical and dangerous shortfall in resources of the OCME. The Commonwealth is placing itself at considerable risk unless timely and effective action is taken to remedy the problem.

2.1.8.3 Conformance with standards - OCME-B

The OCME-B has not sought accreditation by the National Association of Medical Examiners. There were numerous deficiencies noted in a NAME inspection that was conducted in 2000.

The office appears to operate on a budget of approximately $0.56 per capita, a rate that is essentially unchanged for the office since 1983. This budget would have been on the very low end of the national scale in 1983 and is totally inadequate to sustain a viable and safe death investigation system in 2002. The current national scale is approximately $2.00 (+/-) per capita.

The workload assigned to the full-time pathologists, including the Chief Medical Examiner, in OCME-B is beyond the national standard and borders on an unreasonable workload. The workload under which the physicians must perform could very easily result in an error being made during one of the case investigations. This is due to the constant pressure to complete a high number of investigations within a very limited amount of time. Due to this situation, there is a tendency in the office to perform external examinations on deaths, if even accepted in the medical examiner's office, on cases in which there should be an autopsy performed. Consequently, there exists a high risk to the Commonwealth that an injustice could occur due to these practices. Further, the high rate of autopsies required of the Chief Medical Examiner leaves little time to establish policies and procedures. It also results in a system with little contact with or support for staff working outside of Headquarters.

The facility is not accredited by the National Association of Medical Examiners.

Once the appropriate funding is available for the operation of the office, many of the deficiencies should be eliminated. At that time, it is strongly encouraged that the offices seek accreditation by the National Association of Medical Examiners.

2.1.8.4 Training - OCME-B

It is extremely difficult for the physicians to obtain the training necessary for CME credits. In an effort to maintain the appropriate number of CME training credits, the physicians participate in courses presented in hospitals in the greater Boston area.

Due to the lack of funding, there has been very little attendance at professional meetings. Any participation at a professional meeting has usually been at the individual's own expense.

The laboratory should aim for $1,000 to $1,500 annually per physician and technician level staff member in its training budget. This amount may be lowered with a coordinated training effort at the statewide level.

2.1.8.5 Quality Management - OCME-B

There is little effort placed on quality management in OCME-B. The current workload in the office precludes this from occurring. Many autopsy reports are awaiting completion after many months following the death of the individual. OCME-B has recently instituted new procedures of assigning specific clerical staff to individual doctors so that the status of these reports can be better monitored. Due to its recent implementation, the effects of this new procedure could not be verified.

Additional efforts should be developed and implemented to ensure that a quality management system is utilized in OCME-B as well as the remainder of the medical examiner's system. However, until such time as the necessary resources are made available to the office, these efforts cannot be developed fully. Until these resources become officially implemented, there needs to be informal measures implemented that ensure that quality services are, in fact, being provided by the office.

2.1.9 Office of Chief Medical Examiner - Holyoke (OCME-H)

The OCME-H performs the autopsies for the greater western portion of the Commonwealth. It is staffed with two physicians, two technicians, one clerical position and one computer support position. All supplies for the system are purchased by OCME-B and are transported to OCME-H, when available. District medical examiners (physicians, not necessarily pathologists) are utilized in the area to assist in the responding to death scenes. . However, these individuals have not been utilized to the extent possible due the OCME's inability to compensate them for their assistance.

2.1.9.1 Physical Plant - OCME-H

The OCME-H is located in what was at one time a private hospital that closed. Several groups dealing in various types of prevention programs utilize the facility. The morgue is located some distance from the office area but was determined to be quite serviceable. The facility could meet the NAME standards with some modifications. The cooler space allows for the storage of four bodies, however, there is no additional space for additional bodies. Consequently, there have been instances in which there have been bodies that have had to be stored in an unrefrigerated condition until cooler space was available. At other times, bodies have had to be transported to Boston for storage until cooler space was made available. This later procedure results in terribly inefficient usage of the office's limited resources while the former procedure could result in the loss of valuable information concerning the cause of death due to the non-refrigeration of the body. The interior of the facility is old and its age is beginning to show. The owners of the facility attempt to make the necessary repairs, as needed. Due to the space available in the facility, there is no area for the long-term storage of records or other materials, even though there is a General Law of Massachusetts that requires such storage.

The facility does not have X-ray equipment and must utilize portable equipment from a nearby hospital. However, this equipment is somewhat limited in its abilities and does not allow for the taking of specialized X-rays required in certain cases, such as potential cases of "shaken baby deaths". The facility does not have scales for the weighing of bodies. The physicians estimate the weight of the decedents.

The facility has only a single computer that has access to the Internet but there is no e-mail capability for anyone in the office. None of the computers present in the office are networked and this stand alone "system" is extremely inefficient to use. The facility has no voice mail on the telephone system. As such, the physicians and other staff members must stop what they are doing to answer an incoming call. This results in an inefficient operation of the office and results in the slow production of death certificates.

The physical plant should receive the necessary modifications to add cooler capacity in the morgue. The efficiency of the physicians working there will be greatly increased by not having to transport bodies to Boston for storage. Additionally, scales for weighing bodies and some type of dedicated X-ray system are needed for the OCME-H now. The above equipment will prevent information from being lost as a result of the incorrect storage being utilized for some bodies now, will drastically increase the efficiency of the OCME-H staff and the death certificates should be completed sooner.

Additional computers connected to the internet in the office as well as a voice mail system added to the telephone system will result in increased efficiency for the office. The Internet connections will provide the staff with the additional communication capabilities needed for a productive office environment. The voice mail system will provide the staff the ability to complete time-sensitive tasks and return the calls when more efficient to do so.

2.1.9.2 Work volume conditions - OCME-H

The number of staff assigned to OCME-H is marginally adequate. However, it is difficult for the physicians to leave the office to attend training programs or for personal reasons and still have autopsies be completed in a timely manner. During those times when one of the physicians is away from the office, the second one is responsible for completing all of the work that is assigned to the office and cannot therefore leave the office when the other physician is away from the office.

Due to the budget for the OCME, routine supplies for the office are not available from OCME-B and must be "scrounged" from whatever source available. Sample specimen containers are being emptied and cleaned so they can be reused. While there is less apparent cost for this process, the process is actually more expensive when determining the true cost of the process. Additionally, the process could introduce anomalies into the specimen containers if inappropriate cleaning processes are utilized, adding to the potential risk liability of the Commonwealth.

The addition of a part-time physician to assist with the performance of autopsies on those instances where the permanent physicians must be away from the office on personal or sick leave or attending training programs.

Adequate resources should be obtained to eliminate the need for "scrounging" routine supplies and the re-use of sample collection containers. This will greatly increase the efficiency of the office.

2.1.9.3 Conformance with standards - OCME-H

The OCME-H has not sought accreditation by the National Association of Medical Examiners (NAME). There were a significant number of deficiencies noted in a NAME inspection that was conducted in 2000 (Attachment) and all of those noted at that time were found to still be present in this review.

Once the appropriate funding is available for the operation of the office, many of the deficiencies should be eliminated. At that time, it is strongly encouraged that the offices seek accreditation by the National Association of Medical Examiners.

2.1.9.4 Training - OCME-H

It is extremely difficult for the physicians to obtain the training necessary for CME credits. This is due to the fact that as reported, they are there alone most of the time. In an effort to maintain the appropriate number of CME training credits, the physicians have resorted to taking "study at home" courses. It was reported that each of the physicians actually are scheduled for one week a year for formalized training but due to the lack of funds, it is not possible for them to attend any courses. While "study at home" courses accomplish the formal result of receiving the CME credits, the very important interaction with other physicians attending the training programs is lost.

Due to the lack of funding, there has been very little attendance at professional meetings. Any participation at a professional meeting has been at the individual's own expense.

The laboratory should aim for $1,000 to $1,500 annually per physician and technician level staff member in its training budget. This amount may be lowered with a coordinated training effort at the statewide level.

2.1.9.5 Quality Management - OCME-H

There is little effort placed on quality management in OCME-H. The current workload in the office precludes this from occurring. The balances used in the weighing of specimens and other materials in the office have been serviced once in the last five years, rather than every year, as it should occur.

Additional efforts should be developed and implemented to ensure that a quality management system is utilized in OCME-H as well as the remainder of the medical examiner's system. However, until such time as the necessary resources are made available to the office, these efforts cannot be developed fully. Until these resources become available, there needs to be "stop-gap" measures implemented.

2.1.10 Office of Chief Medical Examiner - Pocasset (OCME-P)

The OCME-P performs the autopsies for the "Cape" portion of the Commonwealth. It is staffed with two physicians, two technicians, and one clerical position. All supplies for the system are purchased by OCME-B and are transported to OCME-P, when available.

2.1.10.1 Physical Plant - OCME-P

The facility is housed in an old mental health facility that has since closed. As such, the medical examiner's office is the sole occupant in the building. The most extreme safety threat to public health and safety is the lack of a drain in the autopsy room. This is the result of an inadequate drainage system in the facility. When the medical examiner's office was being planned to be placed there, it was agreed that they would retain 90% of the fluids and return them with the body. As such, the drain from the autopsy table empties into a five-gallon bucket and the effluents are captured and returned with the body to the funeral home. This is extremely unsanitary and could cause a public health hazard. This unsatisfactory condition has been occurring for some time and was detailed in a report issued by the Chairman of the National Association of Medical Examiners' Inspection and Accreditation Committee dated November 10, 2000. Apparently the report was ignored as the same conditions were found to exist on this visit as in 2000. The facility would surely fail an inspection by OSHA or any Department of Health inspection and the facility would no doubt be closed immediately due to this situation. The situation should be immediately remedied to prevent any embarrassment to the office should the public become aware of this deplorable situation. The tiles on the ceiling are continually falling down and causing a safety hazard when doing so. It was reported that there is asbestos throughout the facility that has not been removed or treated so that it cannot become airborne in the facility.

There is a three body cooler in the facility that is very old and marginally operational. It is possible to place five bodies in it if they are stacked one on another. This is not an advisable practice to follow. If necessary, OCME-P can utilize cooler space from a local hospital if the capacity of the morgue's cooler is exceeded but this is an inefficient procedure to follow due to the travel time required to and from the separate facility.

2.1.10.2 Work volume conditions - OCME-P

The personnel in the office reported that they could get by with the equipment they have to work with but they felt that they were in dire need of another facility. *(It is felt that they are completely correct in their need of a new facility. The office needs to be moved to a facility that is in adequate condition and safer to the employees' health or the office should be closed immediately due to the unsafe public health conditions.)* It was further reported that new microscopes were obtained two years ago.

There is no X-ray equipment at the facility. They have to utilize the unit in a hospital thirty minutes away from the morgue. In those instances where the initial images do not reveal the details needed, the body must be returned to the hospital for retaking the X-rays, causing additional time for the completion of the death certificates.

The office has two vans that are used for transport of bodies to the morgue, as there is no removal of bodies by funeral homes in the area. It was reported that the vans were becoming old and should be replaced in the near future.

There is no scale at the facility to weigh the bodies examined. Instead, an estimate of the weight is made.

Funds should be sought immediately for providing another facility in the Cape area of the Commonwealth. The safety violations and the potential public safety problems with the operation of this facility make it an extreme liability risk for the Commonwealth. This is especially true since there have been two previous reports that state the same concerns as those expressed in this report. In the event any type of a potential problem were to occur there, the Commonwealth would have a difficult time explaining why nothing had been done there to correct the facilities since it was made aware of the conditions some two years ago.

The necessary corrections must be made to the plumbing system to allow for the drainage of the effluents through the system.

The necessary cleaning should be done to the morgue facility to ensure the level of cleanliness required is maintained.

The facility should be treated to either remove the asbestos or treat all of the asbestos in the facility so it cannot be transmitted throughout the facility. The ceiling tiles also need to be firmly attached to the surface to eliminate their falling to the floor and potentially injuring individuals in the facility.

Since the technicians also perform the body removal and transport to the morgue, the addition of a third technician would be of assistance to the office and thus allow it to operate more efficiently.

2.1.10.3 Conformance with standards - OCME-P

The OCME-P has not sought accreditation by the National Association of Medical Examiners (NAME). There were a significant number of deficiencies noted in a NAME inspection that was conducted in 2000 (Attachment) and all of those noted at that time were found to still be present in this review.

Once the appropriate funding is available for the operation of the office, many of the deficiencies should be eliminated. Once adequate funding is achieved, it is strongly encouraged that the offices seek accreditation by the National Association of Medical Examiners. However, it is believed that the facilities currently in use in Pocasset would never achieve accreditation status. After complete renovation, they might achieve the accreditation, but it is doubtful. It would be more cost efficient to locate additional facilities to house OCME-P. This would be achieved at a much smaller cost to the Commonwealth than attempting to renovate the current facility.

2.1.10.4 Training - OCME-P

There is no training for the technicians in the office since there are no funds available for this type of training.

With no funds available, it is extremely difficult for the physicians to obtain the training necessary for CME credits. Consequently, they must expend $1,000 to $3,000 per year of their own funds to obtain the training necessary to maintain their continuing education requirements. This is becoming more and more difficult for them to do since they have not had a raise in their salary in nine years. It is not as difficult for the physicians in Boston to receive continuing education since they can attend training at one of the local hospitals in the urban area. However, in Pocasset, this type of training is not locally available and is therefore difficult to obtain.

The laboratory should aim for $1,000 to $1,500 annually per physician and technician level staff member in its training budget. This amount may be lowered with a coordinated training effort at the statewide level.

2.1.10.5 Quality Management - OCME-P

There is little effort placed on quality management in OCME-P. The current workload in the office precludes this from occurring.

Additional efforts should be developed and implemented to ensure that a quality management system is utilized in OCME-P as well as the remainder of the medical examiner's system. However, until such time as the necessary resources are made available to the office, these efforts cannot be developed fully. Until these resources become available, there needs to be "stop-gap" measures implemented.

2.1.11 Office of Chief Medical Examiner - Worchester (OCME-W)

The OCME-W performs the autopsies for the central portion of the Commonwealth. It is staffed with one physician position. All supplies for the system are purchased by OCME-B and are transported to OCME-W when available.

2.1.11.1 Physical Plant - OCME-W

The facility shares the autopsy suite with the pathology department of the UMass hospital. As such, it appears larger than it actually is. The actual amount of the usable space is reduced greatly as it is necessary to store supplies in the work areas along with the other items normally present in the autopsy suite.

The office files are stored in a tiny room that also houses the body storage cooler, along with other office administrative supplies. This room has open access to anyone whom enters the morgue.

There is one small area that serves as an office area for the physician and where microscopic studies are performed. There is an insufficient amount of space to house any additional staff that might be assigned to the office.

The morgue has a nine-body cooler; however, the top three bays are useable only for very small children as the mechanical lift used to raise and lower the trays does not extend to a height sufficient to reach the bottom of the bays. In addition to this, the lift does not lower sufficiently to allow the trays to be transferred from the lower three bays to the lift without the physician being required to physically lift the tray up to the level of the lift. Consequently, for all practical purposes, the office has a ready storage for three bodies. They do have access to the hospital cooler and have had to utilize that facility. However, when this is done, the possibility exists that an error could occur with the hospital performing an autopsy on the wrong body, or the "chain of evidence" for any physical evidence recovered from the body would not be intact due to the presence of other bodies in close proximity with the medical examiner's case. There have also been cases in which the size of the decedent has been such that the medical examiner was at risk of injury because of the need to physically lift the body from the cooler on to the cart.

There is no X-ray equipment at the facility so they must call the UMass hospital and have a portable unit brought to the morgue, sometimes causing a delay in completing the autopsy.

There is no disposal attached to the autopsy table drain causing it to block, requiring the physical removal of the waste, rather than macerating it with a disposal.

There is no face shields provided so units have to be obtained from the hospital, without reimbursement.

There is no scale at the facility to weigh the bodies examined. Instead, an estimate of the weight is made.

The computer in the office is completely a "stand alone" system. There is no access to the Internet, e-mail, or any type of networking with any of the other medical examiner offices in the state.

The physical plant should receive the necessary modifications to the lift in the morgue so that the staff can utilize all nine cooler spaces safely. Additionally, scales for weighing bodies and a dedicated X-ray instrument are needed for the OCME-W. The modification to the lift will prevent the loss or contamination of evidence as a result of the incorrect storage being utilized for some bodies now as

P-0564

well as to help prevent physical injury to personnel responsible for the removal of the bodies from the cooler spaces. Further, there should be a waste disposal added to the drain in the sink area in the morgue for the maceration of waste materials prior to their entry into the waste system.

Face shields should be purchased for use by the physicians when performing autopsies rather than their having to borrow units from the hospital staff.

The computer in the office should be connected to the Internet to increase the efficiency of the physician in the office. The Internet connections will provide the staff with the additional communication capabilities needed for a productive office environment.

2.1.11.2 Work volume conditions - OCME-W

The physician was advised upon original assignment to this office that the it was to be a "satellite office" and as such, there would be no staff, other than the physician, assigned there. Consequently, there is only one physician assigned to this office, with no technician or clerical staff to assist. As such, the physician is responsible for completion of the administrative paperwork for the acceptance of the bodies, removal of the clothing and preparation of the body for autopsy, the completion of the autopsy and the sectioning of all organs for additional study, dictation of the autopsy findings, preparing the body for transfer to the funeral home upon completion of the autopsy, and returning the bodies to the funeral homes, including completing the administrative paperwork. There is a technician that comes to the morgue from Holyoke one day a week for a few hours a day and a technician is supposed to come from Boston, if available, two days a week. However, this does not occur regularly.

With only one physician assigned to the facility, there is no one available to perform any of the administrative or professional responsibilities when the doctor is away from the facility. Consequently, all of the cases are waiting when the physician returns to the office. The physician is also assigned to work in the Boston office one weekend a month. Even though any cases that occur during that time period are supposed to be sent to Boston, for all practical purposes, they remain in Worchester for the return of the physician, causing additional workload. Further, with only one physician assigned to the facility, the physician is on-call all of the time when present in the Worchester area.

With no clerical personnel assigned to the office, the dictations are sent to the Boston office for transcription. Once completed, the reports are sent to Worchester where they corrected and returned to Boston for fixing and they are again sent to Worchester for finalization and sending to the authorities. This can result in the untimely submission of reports by the medical examiner.

As long as supplies are available in Boston, they are received when they are needed in OCME-W. Consequently, it becomes necessary for the medical examiner to "beg, borrow or steal" materials from the UMass facility and not compensate the facility for them. This is true for scalpel blades, paper towels, saw blades, etc. All of these items should be regularly available in a medical examiner facility.

2.1.11.3 Conformance with standards - OCME-W

The OCME-W has not sought accreditation by the National Association of Medical Examiners (NAME). There were a significant number of deficiencies noted in a NAME inspection that was conducted in 2000 (Attachment) and all of those noted at that time were found to still be present in this review.

Once the appropriate funding is available for the operation of the office, many of the deficiencies should be eliminated and once adequate funding has been achieved, it is strongly encouraged that the offices seek accreditation by the National Association of Medical Examiners. However, it is believed that the facilities currently in use in Worchester would never achieve accreditation status even after many of the corrective actions were achieved. Since the space there is quite limited, tit is believed the only way to achieve accreditation is to locate additional facilities to house OCME-W. This would be achieved at a much smaller cost to the Commonwealth than attempting to renovate the current facility.

2.1.11.4 Training - OCME-W

Since there is only one physician, with no technical or clerical support positions to provide assistance, assigned to this facility, it is almost impossible for the individual to obtain any type of professional training. This is the result of not being able to leave the facility unattended while attending the training. When the individual is absent from the office, there is no one present to perform the needed responsibilities so they must be handled upon return to the office, in addition to the normal workload for the daily activities. Consequently, the physician chooses not to leave the office so as to prevent the undue workload. The incumbent has been able to obtain continuing CME credits through the use of Internet classes at home with the use of a personal computer, since the office computer does not have Internet access.

The office should aim for $1,000 to $1,500 annually per physician in its training budget. Additionally, it is imperative that backup personnel be made available for this office so that the physicians can attend the necessary training classes to ensure that they are providing quality services to the citizens of the Commonwealth. The amount of funds may be lowered with a coordinated training effort at the statewide level.

2.1.11.5 Quality Management - OCME-W

There is little effort placed on quality management in OCME-W. The current workload and the woefully lack of necessary personnel in the office precludes this from occurring.

Additional efforts should be developed and implemented to ensure that a quality management system is utilized in OCME-W as well as the remainder of the medical examiner's system. However, until such time as the necessary resources are made available to the office, these efforts cannot be developed fully. Until these resources become available, there needs to be "stop-gap" measures implemented.

2.1.12 Department of Health Crime Laboratory-Jamaica Plains- DOHCL-J

The Department of Health Crime Laboratory is located in Boston (Jamaica Plains) and provides analyses of controlled substances for all law enforcement agencies in the Commonwealth with the exception of the State Police. There is another laboratory in Amherst that handles controlled substances from the western portion of the state. The laboratory is housed in a multi-floor facility in the Public Health Laboratory Complex that also houses other health laboratories for the Commonwealth. Since there are multiple Public Health functions in the facility, security is of utmost concern in the crime laboratory and they have taken adequate steps to handle the security of the facility.

2.1.12.1 Physical Plant - DOHCL-J

The drug unit is located several floors above the ground level and covers several thousand square feet. The drug complex seemed to be constructed as a retrofit as the space did not flow with maximum efficiency. The rooms are small and winding and created a sense of a maze. For the size of the staff and amount of scientific equipment, the space is very restrictive. Cabinet and bench spaces were crowded and quite cluttered. The University of Massachusetts Medical School manages the building. Lightning and electrical power appeared to be adequate. The facility is very crowded and thus creates inefficient operations. Safety issues and contamination could become a concern if additional staff and/or equipment are added.

It is recommended that consideration be given to locating a facility that would allow the efficient operation of the unit.

2.1.12.2 Work volume conditions - DOHCL-J

The staff assigned to this unit is adequate to meet the number of cases submitted annually. The backlog has remained constant for a long period of time. It is noted that the experience of the individuals in the unit ranges from 30 years to less than one year. In the event of the loss of the more experienced analysts, the backlog could increase until new analysts are trained to replace the individuals leaving the laboratory.

Contingency plans need to be developed that can be placed into effect in the event that the laboratory experiences a sudden loss of its experienced analysts to prevent a large backlog from developing.

In general, there is adequate equipment available to the members of the unit for the analyses being performed.

It is recommended that a high-pressure liquid chromatograph (HPLC) be purchased for the unit to permit the specialized analyses of certain samples not otherwise currently available.

2.1.12.3 Conformance with standards - DOHCL-J

The laboratory has not met the standards set by ASCLD/LAB and it does not conform to all of their requirements or with the requirements of the Scientific Working Group on Drugs (SWGDRG).

Prior to meeting the referenced national standards for SWGDRG and the accreditation standards for ASCLD/LAB, DOHCL-J needs to develop written protocols for the analyses of case exhibits submitted to the laboratory. Additionally, a procedure for the requirement for peer reviews of reports would need to be developed and implemented. The laboratory also needs to develop and implement a formalized proficiency testing program prior to meeting the national standards.

2.1.12.4 Training - DOHCL-J

The analysts are encouraged to attend outside training courses in the form of regional and/or national meetings. However, there seems to be little advances in this area in that the analysts do not choose to attend these classes. Membership in professional organizations is not a requirement and there is little participation. There is no requirement for any individual certification and there is no one certified.

It is recommended that the analysts participate in regional training programs and/or professional meetings. This activity will ensure that the analysts remain current in the field and the interaction with other professionals can provide them with possible alternative case working methods to increase their efficiency when performing casework.

2.1.12.5 Quality Management - DOHCL-J

Formal quality systems are not in place in DOHCL.

Written training programs and protocols need to be developed and implemented for use when examining evidence in DOHCL-J. This would also involve the development and implementation of a quality manual, safety manual and other written documentation of the various protocols and procedures to be followed in the laboratory. Additionally, an individual in the laboratory would need to be designated as the Quality Manager for the laboratory.

2.1.13 Department of Health Crime Laboratory-Amherst– DOHCL-A

The laboratory is housed in a multi floor facility on the University of Massachusetts campus that also houses other laboratories for the Commonwealth. Since there are multiple functions in the facility, security is of utmost concern in the crime laboratory and they have taken adequate steps to handle the security of the facility.

2.1.13.1 Physical Plant - DOHCL-A

The drug unit is located on ground level and covers a few thousand square feet. The drug laboratory is housed in a building that was constructed in the 1950's. The space does not flow with maximum efficiency. Some of the rooms are small and others are in need of remodeling. For the size of the staff and amount of scientific equipment, the space is very restrictive. Cabinet and bench spaces were found to be crowded. Lightning and electrical power appear to be adequate. The facility is very crowded and thus creates inefficient operations. Safety issues and contamination might become a concern if additional staff and/or equipment are added.

It is recommended that consideration be given to locating a facility that would allow the efficient operation of the unit.

2.1.13.2 Work volume conditions - DOHCL-A

The staff assigned to this unit should be increased to meet the number of cases submitted annually. The backlog has remained constant for a long period of time. It is noted that the experience of the individuals in the unit ranges from over 20 years to one year. In the event of the loss of the more experienced analysts, the backlog could increase until new analysts are trained to replace the individuals leaving the laboratory.

Contingency plans need to be developed that can be placed into effect in the event that the laboratory experiences a sudden loss of its experienced analysts to prevent a large backlog from developing.

In general, there is adequate equipment available to the members of the unit for the analyses being performed.

2.1.13.3 Conformance with standards - DOHCL-A

The laboratory has not met the standards set by ASCLD/LAB and it does not conform to all of their requirements or with the requirements of SWGDRG.

DOHCL-A would have to develop written protocols for the analyses of exhibits submitted along with the requirement for peer reviews of reports. There would also have to be a proficiency testing program implemented in the laboratory.

2.1.13.4 Training - DOHCL-A

The analysts are encouraged to attend outside training courses in the form of regional or is national meetings.

It is recommended that the analysts participate in regional training programs and/or professional meetings. This activity will ensure that the analysts remain current in the field and the interaction with other professionals can provide them with possible alternative case working methods to increase their efficiency when performing casework.

2.1.13.5 Quality Management - DOHCL-A

Formal quality systems are not in place in DOHCL-A.

Written training programs and protocols need to be developed and implemented for use when examining evidence in DOHCL-A. This would also involve the development and implementation of a quality manual, safety manual and other written documentation of the various protocols and procedures to be followed in the laboratory. Additionally, an individual in the laboratory would need to be designated as the Quality Manager for the laboratory.

2.1.14 University of Massachusetts Toxicology Laboratory - UMassTox

The laboratory currently does some type of toxicology testing on 2500 - 3000 cases per year. The vast majority of those cases have what is described as "routine" toxicology. That type of analyses consists of a blood alcohol and presumptive testing (ELISA) for the presence of cocaine, opiates, barbiturates and benzodiazepines. Positive ELISA results are followed-up by GC/MS qualitative confirmation, including a GC/MS assay for cocaine or opiates. Qualitative testing for benzodiazepines or barbiturates can be performed in-house, however, any samples for quantitative testing are sent out to the National Medical Services (NMS) in Philadelphia. These samples must be sent out due to UMassTox's lack of equipment and staffing to perform these analyses.

A second "drug screening" option is also offered, which is referred to as a "comprehensive" screen. That test involves a broad-based GC/MS screen. However, that test apparently requires approval of the Chief Medical Examiner, and cannot be ordered routinely by ME/pathologists. Furthermore, any quantitative tests that are required, other than alcohol, cocaine and opiates, must be sent out to the NMS laboratory.

The laboratory reported that they currently send out virtually all quantitative testing, other than alcohol, cocaine and most opiates. The cost of that testing used to be about $30,000 per month, but is now about $5000 per month.

It was reported that UMASSTox is currently owed about $250,000 - $300,000 by the Medical Examiner's Office for forensic tests performed thus far during 2001-2002.

2.1.14.1 Physical Plant - UMassTox

The portion of the UMASS building being used for forensic services is relatively modern. The equipment there is adequate for the minimal level of service being provided. The laboratory has an automated analyzer for the ELISA testing, in addition to an HP 5973 GC/MSD. In addition to the equipment specifically assigned to UMassTox, some of the equipment in the clinical toxicology area is utilized, including a GC/headspace analyzer. The clinical area also has two additional GC/MSDs, plus an HPLC available (although that is not being used by UMassTox for routine work at present).

2.1.14.2 Work volume conditions - UMassTox

There are formally 3.5 FTEs assigned to the section but there might be as high as 5 if the ad hoc hours given to the laboratory by the clinical laboratory staff are included.

It has been estimated that based on prior experience, the laboratory needs to add ten people and increase the operating budget by approximately $1 million.

2.1.14.3 Conformance with standards - UMassTox

Based on the current levels of staffing and the methods performed, the UMass Forensic Toxicology Laboratory in Worchester falls well short of the standards required for accreditation by the American Board of Forensic Toxicology Laboratory Accreditation Program. The laboratory does have a quality, procedure and safety manual. As required by the College of American Pathologist (CAP), which requires these basic procedures. The qualifications of the personnel in the section are not in question; rather the resources available to them are grossly inadequate to meet the accreditation standards.

There is no question that the current extent and depth of forensic toxicology being performed on the postmortem cases is well below even the most basic accepted standards, and grossly inadequate by North American standards. Although there was no attempt to examine any data generated by the UMassTox forensic laboratory, there is little doubt that where a "comprehensive" drug screen is authorized by the CMEO, that the quality would be at least adequate (based on the experience of the staff and the availability of GC/MS). The "routine toxicology" screens requested would, by their nature, fail to detect a very wide range of prescription drugs, and many "street drugs", even if present at "massive overdose" concentrations. In other words, the screens would miss the vast majority of drugs, which do not cross react in the opiate, cocaine, benzodiazepine and barbiturate assays. Notable examples include methadone, PCP, marihuana, amphetamines, antidepressants, and antihistamines. The ability to detect a broad range of drugs is critical to the accurate certification of death. In other cases, detection of these drugs is important in determining whether they were a factor in causing impairment in most types of accidental death.

Perhaps arguably, the failure to detect whether a person died from a self-inflicted drug or drug-alcohol intoxication is of little public concern. However, it does have significant impact on the insurance industry, that may be paying out insurance claims unnecessarily - for example, contrary to the provisions of a policy that is voided where the death is judged to be drug or alcohol related. It becomes even more of a civil liability issue where one or more people die as innocent victim in a motor vehicle accident (MVA) where a driver is impaired by drugs. Similarly, lack of adequate toxicology testing deprives authorities or employers of the ability to know whether an industrial accident victim was impaired. Accurate determination of the cause of death is not usually an issue in such cases, but there are significant civil implications.

Although relatively rare, there have been cases in other jurisdictions where drugging and murder of a person may be missed unless adequate toxicology is performed. These are surely public safety issues.

In order to perform adequate postmortem toxicology testing on 2500 - 3000 cases per year, an absolute minimum of 12 - 15 toxicology technical staff are required, in addition to one or two other non-technical and administrative staff. Adequate financing for routine technical supplies and capital equipment replacement program is needed, in addition to the initial equipment needed to perform the additional examinations. Less technical staff could be tolerated, and a minimally adequate program still run if sufficient funding was available in order to send samples to other laboratories for less frequently encountered drug analyses.

2.1.14.4 Training - UMassTox

There is no training budget set-aside for the unit and there is no regular attendance of members at professional meetings.

The laboratory should aim for $1,000 to $1,500 annually per staff member having expert testifying responsibilities its training budget. This amount may be lowered with a coordinated training effort at the statewide level.

2.1.14.5 Quality Management - UMassTox

Formal quality systems are not in place in UMass Toxicology laboratory.

Written training programs and protocols need to be developed and implemented for use when examining evidence in UMassTox. This would also involve the development and implementation of a quality manual, safety manual and other written documentation of the various protocols and procedures to be followed in the laboratory. Since UMassTox does not have a formal quality system in place, it would not be meet the accreditation standards set by then American Board of Forensic Toxicologists.

2.1.15 UMASS Drugs of Abuse Laboratory – UMDoAL

The laboratory is housed a multi floor facility on the University of Massachusetts Medical School campus that also houses other laboratories. Security of this is very well maintained.

2.1.15.1 Physical Plant - UMDoAL

The drug unit was located on basement level and covered a few hundred square feet. The drug laboratory is housed in space that was designed in the mid 1980's as the drug laboratory. For the size of the staff and amount of scientific equipment, the space was very restrictive. Cabinet and bench spaces were crowded. Lighting and electrical power appeared to be adequate. The facility is very crowded and thus creates inefficient operations. Safety issues and contamination might become a concern if additional staff and/or equipment are added.
It is recommended that consideration be given to locating a facility that would allow the efficient operation of the unit.

2.1.15.2 Work volume conditions - UMDoAL

The staff assigned to this unit is should be increased to meet the number of cases submitted annually. The backlog has remained constant for a long period of time. In the event of the loss of the more experienced analysts, the backlog could increase until new analysts are trained to replace the individuals leaving the laboratory.

Contingency plans need to be developed so that can be placed into effect in the event that the laboratory experiences a sudden loss of its experienced analysts to prevent a larger backlog from developing.

In general, there is adequate equipment available to the members of the unit for the analyses being performed.

2.1.15.3 Conformance with standards - UMDoAL

The laboratory has not met the standards set by ASCLD/LAB and it does not conform to all of their requirements or with the requirements of SWGDRG.

inadequate. However, this should not be unknown since the same findings were identified in a report conducted in 2000.

If nothing is done soon in the Pocasset office, the Commonwealth is at dire risk of being responsible for the health of the individuals employed there, as well as the health of the surrounding communities.

The Worchester office is not quite as bad as the Pocasset facility but the equipment in Worchester is such that it is only a matter of time before one of the employees is injured when attempting to transport a body from one location to another within the office. Additionally, there is no room what so ever for the addition of another single individual in Worchester. This is extremely dire, as the facility desperately needs at least a technician assigned there and possibly a clerical position. There is no space for either of these positions. The addition of these two positions would provide the necessary support for the physician to provide the time for in-service training and general office support that is currently not being done.

3.7.3 Department of Health Crime Laboratory *(Long Term)*

The Department of Health Crime Laboratory is at its maximum capacity, if not exceeding it, with respect to instrumentation and personnel. New facilities should be sought so as to provide the additional space requirements needed with the addition of personnel or equipment.

3.8 Office of Chief Medical Examiner

3.8.1 Funding *(Short Term)*

The root of the majority of the problems currently being experienced in the Office of Chief Medical Examiner can be traced back to the unit's operating budget. The only way the situation can be turned around is with the infusion of funds and a systematic procedure for the utilization of these funds. Approximately the same funding has been allocated annually to the medical examiner's office since 1983. The current budget appears to equate to approximately $0.56 per capita as compared to a standard of $2.00 per capita as set by the National Association of Medical Examiners. The rate may have been higher in 1983 when the funds were originally appropriated but in comparison to today's population it is extremely low. This budget would have been on the very low end of the national scale in 1983 and is totally inadequate to sustain a viable and safe death investigation system in 2002. The current system is at high risk to produce a major error within the criminal justice system and without a major financial rescue will continue to deteriorate, eventually costing more to fix and taking longer to repair. With the current budget the Office has no choice but to continue to cut corners, which increase the chances of major error.

A proposed program to for the solving of this potential emergency situation is provided below:

(1) The State of Massachusetts enhances the operating budget of the Office of the Chief Medical Examiner **as soon as possible**. This budget enhancement must be sufficient to permit the Office to conduct quality death investigations as expected of a Medical Examiners system in 2002. An appropriate enhancement will allow the Office to retain current full time Forensic Pathologists and hire additional Pathologists (some of whom are currently on contract) by increasing salaries to levels commensurate with similar jurisdictions. An enhanced budget should also immediately (a) permit hiring additional technical and clerical staff; (b) permit ordering of appropriate toxicological and subspecialty consultations; and (c) support continuing medical education for staff. An appropriate operating budget would eliminate the current reliance on State Police to provide support for death investigations that should be provided by independent investigators working for the OCME.

(2) The State of Massachusetts provide sufficient one time funding to address serious inadequacies in the physical plant of the current satellite units.

(3) The State of Massachusetts contract with external (out of state) forensic experts for guidance on the allocation of additional funds provided to the OCME to ensure the appropriate allocation of Commonwealth resources to meet the diverse needs of the Office.

(4) The State of Massachusetts appoints a full time senior manager, reporting to the Chief Medical Examiner, to provide administrative expertise to the Office. This senior manager would in part be responsible for writing policies and procedures and establishing office management priorities.

(5) The State of Massachusetts arranges an external review of the Chief Medical Examiner one year after these steps (1 through 4) have been put in place to determine the progress made. If prompt action were taken this review would coincide with the end of the current 5-year term of office.

3.8.2 Commission on Medical Legal Investigations *(Short Term)*

The General Laws of Massachusetts established the Commission on Medical Legal Investigations and set forth certain responsibilities of the body. For whatever reason, the Commission has not met for several years and consequently, the legislatively mandated responsibilities are not being met. The Commission should be re-enacted immediately so that the requirements in statutes are met. This is especially important since the statutes require the Commission to present three names for the Governor to consider for appointment to the Office of Chief Medical Examiner. Since the incumbent's term expires in 2003, this Commission must be active and present the names to the Governor, as required by the General Laws of Massachusetts. This group, if used appropriately, can provide excellent recommendations to the Executive Office of Public Safety (EOPS) concerning the operation of the medical examiner system. This can result in improved communications between and among the medical examiner office's stakeholders.

3.9 Quality Assurance Programs *(Short Term and Long Term)*

The State Police Crime Lab System (involving work by chemists at the Sudbury, Agawam and Danvers locations) and the Boston PD Crime Laboratory Unit are the sole components of the current state forensic infrastructure which have earned accredited status. The State Police Ballistics and Crime Scene Services Sections, the Department of Health Crime Laboratory and the Office of Chief Medical Examiner should each develop and implement formal quality programs for use in their facilities. This would include, but not be limited to, seeking accreditation by the appropriate national organizations. This would include participating in proficiency test programs, having written protocols for the examinations performed, written training programs for each of these sections, and any other materials required for this accreditation. This will have the added benefit of having the sections comparable to the scientific sections' accreditation as well as making the sections more responsive to their stakeholders. . The resources to achieve such accreditation, based on national averages, will entail the loss in the current casework capacity and involve the need for significant funds for enhanced administrative and evidence integrity procedures. It is imperative that these costs be accounted for when developing the statewide plan for Quality Assurance.

3.10 Digital Evidence *(Short Term and Long Term)*

The current equipment must be upgraded to keep up with the state of the computer equipment being seized. This means annual purchases of the latest hardware and software to be able to recover the data analyze the data and present the recovered data back to the submitting agency, prosecutor and jury. Proper resources need to provided to replace the current federal funding in the event such funding is no longer available.

3.11 Acceptance of Evidence *(Short Term)*

It was learned that in at least one of the crime laboratories, evidence is not accepted during the time period of 12 - 2:00 PM, apparently while the individuals responsible for the intake of evidence are on "lunch break". This can cause a great deal of frustration for individuals transporting evidence to the laboratory, especially from one of the more remote locations of the Commonwealth. This procedure causes the transporters of the evidence to wait until the evidence room reopens prior to their submission